

## REMARKS

In the Office Action, the Examiner noted that Claims 1 through 18 were pending in the Application. The Examiner rejected all claims. Applicants traverse the rejections below.

### I. Traversal of the Rejections over the Cited Art

The Examiner rejected Claims 1 - 18 under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 5,740,440 to West. Applicants traverse this rejection below.

#### A. The Present Invention

The present invention provides an execution monitoring tool for monitoring a message processing program or system. The execution monitoring tool identifies locations within the message processing program corresponding to a predefined set of execution progress stages, and inserts execution progress report generator components at these locations. Execution progress reports (including a representation of the message contents and structure) are then sent to the execution monitoring controller which maps the report data to its own representation of the program to determine the current position within an execution program. The message contents and structure, as well as the structure of the program and the current execution position, are displayed during execution on a test system. The execution reports include the current execution status as well as the position within the execution flow. The invention is advantageous for debugging a visual message flow, which represents a sequence of message processing operations as a set of nodes and connections between the nodes. A set of debug nodes for generating the execution progress reports are automatically inserted in the message flow before executing it on a test and debugging system, and these debug nodes send execution progress reports to a debug controller.

## **B. Differences between the Claims and the Cited Art**

West describes a dynamic object visualization and browsing system which automatically monitors an object-oriented program for, for example, debugging purposes. The state of a digital processor is determined at selected points during execution of the program, and the status of objects is determined from the state. An animated graphical display of the status of selected objects and their interrelationships is displayed.

As discussed above, the present invention provides an execution monitoring tool for monitoring a message processing program or system. In contrast, West does not discuss or address a message processing program. Rather, West is directed to a system which monitors an object-oriented program, and displays the status of object-oriented objects graphically. There is no discussion of monitoring a message processing program in West. How the present claims can be anticipated by West is entirely unclear.

Independent Claim 1 recites "the execution progress reports including a representation of the current contents of a message being processed by the message processing program". Relative to this subject matter, the Office Action cites column 3, lines 27-35 and column 4, lines 6-7 and 61-62. None of these passages describe or discuss a message processing program or that execution progress reports include the contents of a message. Rather, the passage from column 3 discusses the visual display of the status of selected objects. The first passage from column 4 describes the setting of breakpoints, and the second passage from column 4 describes use of the invention in conjunction with a conventional debugger interface. None of this teaches, suggests or discloses the subject matter cited above from Claim 1. No message is discussed or described. No attempt is made to state what from West is a message in the present claims.

Claim 1 also recites one or more components "for sending the execution progress reports to an execution monitoring controller". Relative to this subject matter, Figure 2 and column 8, lines 16-32 are cited. Figure 2 shows a user interface, a user interface subsystem 42, a monitor

subsystem 40, and a monitored program 40. Which of these components, if any, discloses an execution monitoring controller is never discussed in the Office Action. In the 'flow' of data illustrated in Figure 2, a number of different items are sent, but none of these items is an execution progress report. Also, the passage from column 8 does not discuss the sending of execution progress reports. Nor does this passage appear to describe an execution monitoring controller.

Claim 1 also recites "an execution monitoring controller which is responsive to receipt of said execution progress reports for generating, during execution of said message processing program, a visual representation of the message contents." Relative to this subject matter, Figure 2 and the passage from column 8 are once again cited. However, the figure and the passage simply do not show generating a visual representation of the contents of a message. What in West discloses an execution monitoring controller is never discussed.

Accordingly, Applicants submit that West does not teach, suggest or disclose the subject matter recited in Claim 1, as discussed above, and that Claim 1 patentably distinguishes over West. While it follows that dependent Claims 2-6 also distinguish over West, additional differences between some of these claims and West will now be discussed.

Claim 2 recites "a message generator which is responsive to user input to create a message and to invoke the message processing program to process the message." Relative to this subject matter, passages from column 3, line 59 to column 4, line 7 and column 34, lines 24-26 are cited. The passage beginning in column 3 describes setting breakpoints, which is a well known process, and not the material claimed in Claim 2. When the breakpoint is hit during execution of the program, the state of the digital data processor and status of monitored objects is determined so that the display can be updates. There is no discussion of a message generator which is responsive to user input to create a message. There is no discussion of invoking a message processing program to process the created message. The passage from column 34 is actually part of one of West's claims, and recites "responding to user input to dynamically filter display of selected objects and relationships therewith". This does not at all teach, suggest or disclose the

subject matter from Claim 2.

Accordingly, Applicants submit that Claim 2 further distinguishes over West.

Dependent Claim 3 recites “means for modifying the message contents when execution is stopped at a breakpoint.” Relative to this subject matter, passages from column 3, lines 62-67 and column 4, lines 29-31 are cited. The passage from column 3 states that as “execution suspends, at the breakpoints, the state of the digital data processor and status of the monitored objects is determined...” This simply does not disclose the cited subject matter. No message content is modified in this passage. The passage from column 4 states “updating these graphically depicted relationships as subsequent references are made between objects.” Once again, no message content is modified. Is the Office Action now suggesting that references between objects are the ‘messages’ of the present invention? Or is it the relationship between the objects? If one or the other, how does that make sense with the rest of the Office Action?

Accordingly, Applicants submit that dependent Claim 3 further distinguishes over West.

The Office Action rejected independent Claims 7 through 13 for the same reasons that Claim 1 or Claims 1 and 2 were rejected above. Since Claims 1 and 2 have been shown to distinguish over West above, it follows that Claims 7 through 13 also distinguish over West.

Further, it follows that dependent Claims 14 through 18 also distinguish over West.

## II. Summary

Applicants have presented technical explanations and arguments fully supporting their position that the pending claims are not taught, suggested or disclosed by West. Accordingly, Applicants submit that the present Application is in a condition for Allowance. Reconsideration of the claims and a Notice of Allowance are earnestly solicited.

Respectfully submitted,



Gregory M. Doudnikoff

Attorney for Applicant

Reg. No. 32,847

GMD/lld

Docket No: GB9-2000-0119-US1

PHONE: 919-254-1288 FAX: 919-254-4330

GB9-2000-0119

6